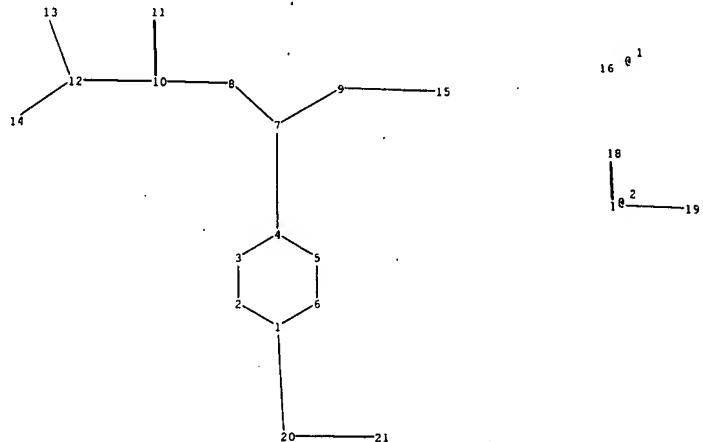
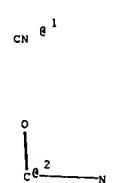
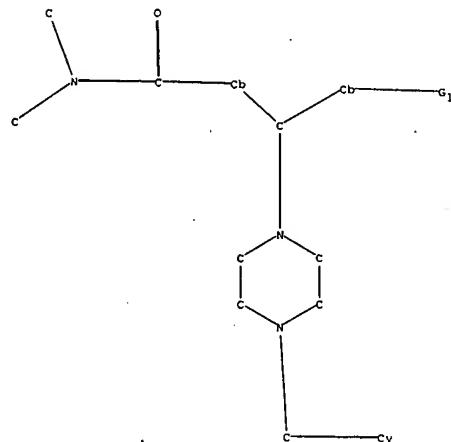


EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	454866	(\$3amino)carbonyl near2 phenyl near10 piperazin-1-yl	US-PGPUB; USPAT	OR	OFF	2007/06/23 18:52
L5	4819	((544/360) or (544/363) or (544/369) or (544/370) or (544/372) or (544/379) or (544/396)).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/06/23 18:53
L7	3584	I4 and I5	US-PGPUB; USPAT	OR	OFF	2007/06/23 18:55
L8	1885	I7 and (opioid or sigma or delta)	US-PGPUB; USPAT	OR	OFF	2007/06/23 18:56



chain nodes :

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

ring nodes :

1 2 3 4 5 6

chain bonds :

1-20 4-7 7-8 7-9 8-10 9-15 10-11 10-12 12-13 12-14 17-18 17-19 20-21

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

1-2 1-6 1-20 2-3 3-4 4-5 4-7 5-6 9-15 10-11 10-12 12-13 12-14 17-18 17-19 20-21

exact bonds :

7-8 7-9 8-10

isolated ring systems :

containing 1 :

G1:[*1],[*2]

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS8:Atom 9:Atom 10:CLASS11:CLASS12:CLASS13:CLASS14:CLASS15:CLASS16:CLASS17:CLASS18:CLASS19:CLASS20:CLASS21:Atom

Generic attributes :

8:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Type of Ring System : Monocyclic

9:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Type of Ring System : Monocyclic

21:

Saturation : Unsaturated

10/533744

=> d his

(FILE 'HOME' ENTERED AT 16:03:26 ON 23 JUN 2007)

FILE 'REGISTRY' ENTERED AT 16:03:42 ON 23 JUN 2007

L1 STRUCTURE uploaded
L2 0 S L1
L3 17 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 16:04:30 ON 23 JUN 2007

L4 1 S L3

FILE 'CAOLD' ENTERED AT 16:04:59 ON 23 JUN 2007

L5 Q S L3

FILE 'CHEMCATS' ENTERED AT 16:05:09 ON 23 JUN 2007

T.6 Q S L3

FILE 'REGISTRY' ENTERED AT 16:05:58 ON 23 JUN 2007

=> file caplus
COST IN U.S. DOLLARS
SINCE FILE
ENTRY
TOTAL
SESSION
0.45 178.23
FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 16:06:29 ON 23 JUN 2007
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FILE 'REGISTRY' ENTERED AT 16:03:42 ON 23 JUN 2007

L1 STRUCTURE uploaded
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L3 17 S L1 SSS FULL

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14 1 S 13

10/533744

FILE 'CAOLD' ENTERED AT 16:04:59 ON 23 JUN 2007

L5 0 S L3

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L6 0 S L3

FILE 'REGISTRY' ENTERED AT 16:05:58 ON 23 JUN 2007

FILE 'CPLUS' ENTERED AT 16:06:29 ON 23 JUN 2007

=> s 13 bib abs hitstr

MISSING OPERATOR L3 BIB

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 13

L7 1 L3

=> d 17 bib abs hitstr

L7 ANSWER 1 OF 1 CPLUS COPYRIGHT 2007 ACS on STN

AN 2004:412930 CPLUS

DN 140:423707

TI Preparation of 4-(phenylpiperazinylmethyl)benzamides for treatment of pain or gastrointestinal disorders

IN Brown, William; Griffin, Andrew; Plobeck, Niklas; Walpole, Christopher

PA AstraZeneca AB, Swed.

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004041800	A1	20040521	WO 2003-SE1703	20031105
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2502733	A1	20040521	CA 2003-2502733	20031105
	AU 2003274884	A1	20040607	AU 2003-274884	20031105
	EP 1562922	A1	20050817	EP 2003-759164	20031105
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	BR 2003015998	A	20050920	BR 2003-15998	20031105
	CN 1711251	A	20051221	CN 2003-80102825	20031105
	JP 2006507296	T	20060302	JP 2004-549772	20031105
	US 2006167004	A1	20060727	US 2005-533744	20050504
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GI					

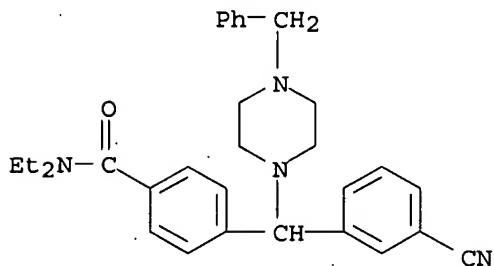
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [wherein R1 = (un)substituted (hetero)aryl; R2 = H or (un)substituted alkyl, aryl, or heterocycl; or pharmaceutically acceptable salts, enantiomers, or mixts. thereof] were prepared as opioid δ receptor ligands. For example, 4-carboxybenzaldehyde was amidated with diethylamine using SOCl_2 in CH_2Cl_2 to give N,N-diethyl-4-formylbenzamide (90%). Coupling of the amide with 1-piperazinecarboxylic acid 1,1-dimethylethyl ester in the presence of benzotriazole in toluene, followed by reaction with 3-cyanophenylzinc iodide in THF, afforded 4-[(3-cyanophenyl)[4-[(diethylamino)carbonyl]phenyl]methyl]-1-piperazinecarboxylic acid 1,1-dimethylethyl ester. Deprotection of the piperazine (39%) using TFA in CH_2Cl_2 and alkylation (57%) with benzaldehyde in the presence of sodium triacetoxyborohydride in CH_2Cl_2 provided 3-[(4-[(diethylamino)carbonyl]phenyl)(4-benzylpiperazin-1-yl)methyl]benzonitrile. Conversion of the nitrile to the amide with KOH in t-BuOH and chiral HPLC separation of the enantiomers gave (-)-II (99% optical purity). In binding assays using human 293S cells expressing cloned human opioid receptors and neomycin resistance, (-)-II proved to be an effective δ receptor ligand ($\text{IC}_{50} = 0.26 \text{ nM}$) and showed some activity toward the κ ($\text{IC}_{50} = 112 \text{ nM}$) and μ ($\text{IC}_{50} = 7.7 \text{ nM}$) receptors. In functional assays, (-)-II demonstrated δ receptor agonist activity by activating the binding of GTP to G-proteins. Thus, I and their pharmaceutical compns. are useful in therapy, in particular for the treatment of gastrointestinal disorders or the management of pain (no data).

IT 691358-45-9P, 3-[(4-[(Diethylamino)carbonyl]phenyl)(4-benzylpiperazin-1-yl)methyl]benzonitrile 691358-46-0P, 3-[(4-[(Diethylamino)carbonyl]phenyl)[4-(2-furanylmethyl)piperazin-1-yl)methyl]benzonitrile
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; preparation of (phenylpiperazinylmethyl)benzamides as δ receptor agonists for treatment of pain or gastrointestinal disorders)

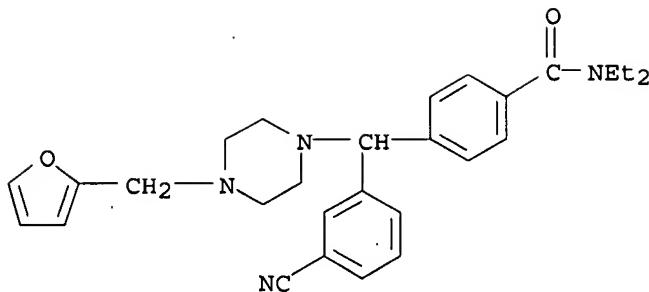
RN 691358-45-9 CAPLUS

CN Benzamide, 4-[(3-cyanophenyl)[4-(phenylmethyl)-1-piperazinyl]methyl]-N,N-diethyl- (9CI) (CA INDEX NAME)



RN 691358-46-0 CAPLUS

CN Benzamide, 4-[(3-cyanophenyl)[4-(2-furanylmethyl)-1-piperazinyl]methyl]-N,N-diethyl- (9CI) (CA INDEX NAME)



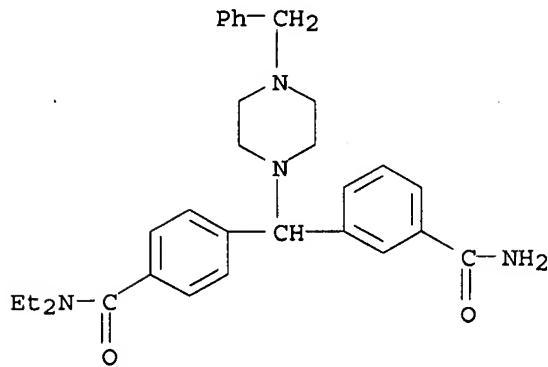
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RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(δ receptor agonist; preparation of (phenylpiperazinylmethyl)benzamide as δ receptor agonists for treatment of pain or gastrointestinal disorders)

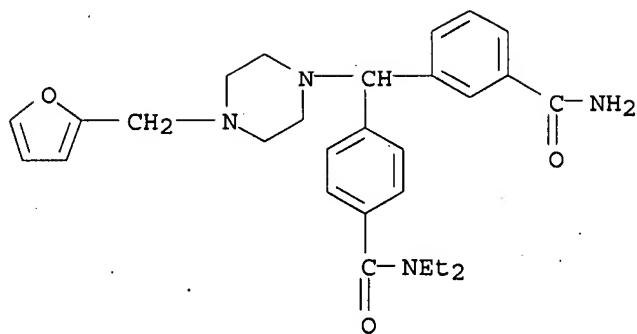
RN 691358-51-7 CAPPLUS

CN Benzamide, 4-[(3-(aminocarbonyl)phenyl)[4-(phenylmethyl)-1-piperazinylmethyl]-N,N-diethyl- (9CI) (CA INDEX NAME)



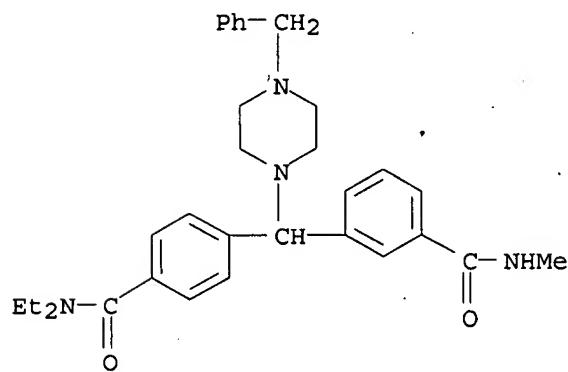
RN 691358-56-2 CAPPLUS

CN Benzamide, 4-[(3-(aminocarbonyl)phenyl)[4-(2-furylmethyl)-1-piperazinylmethyl]-N,N-diethyl- (9CI) (CA INDEX NAME)



RN 691358-62-0 CAPLUS

CN Benzamide, N,N-diethyl-4-[[3-[(methylamino)carbonyl]phenyl][4-(phenylmethyl)-1-piperazinyl]methyl]- (9CI) (CA INDEX NAME)



IT 691883-84-8P 691883-85-9P 691883-86-0P

691883-87-1P 691883-88-2P 691883-89-3P

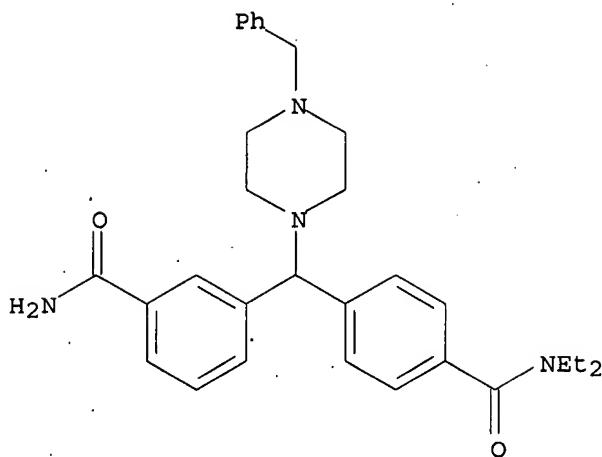
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(δ receptor agonist; preparation of (phenylpiperazinylmethyl)benzamide
s as δ receptor agonists for treatment of pain or
gastrointestinal disorders)

RN 691883-84-8 CAPLUS

CN Benzamide, 4-[[3-(aminocarbonyl)phenyl][4-(phenylmethyl)-1-piperazinyl]methyl]-N,N-diethyl-, hydrochloride (5:16), (-)- (9CI) (CA INDEX NAME)

Rotation (-).

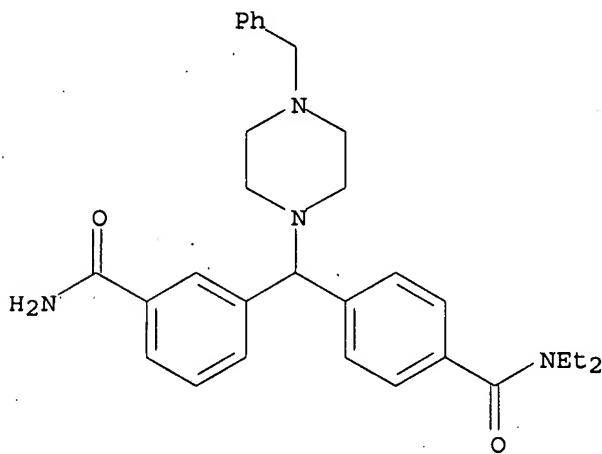


● 16/5 HCl

RN 691883-85-9 CAPLUS

CN Benzamide, 4-[[3-(aminocarbonyl)phenyl] [4-(phenylmethyl)-1-piperazinyl]methyl]-N,N-diethyl-, hydrochloride (10:31), (+)- (9CI) (CA INDEX NAME)

Rotation (+).

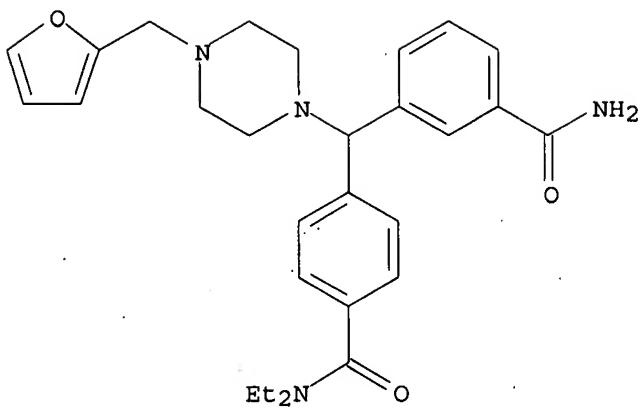


● 31/10 HCl

RN 691883-86-0 CAPLUS

CN Benzamide, 4-[[3-(aminocarbonyl)phenyl] [4-(2-furanyl methyl)-1-piperazinyl]methyl]-N,N-diethyl-, hydrochloride (5:13), (-)- (9CI) (CA INDEX NAME)

Rotation (-).

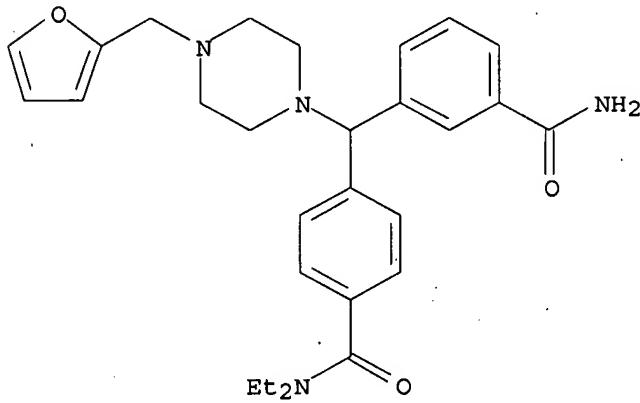


● 13/5 HCl

RN 691883-87-1 CAPLUS

CN Benzamide, 4-[(3-(aminocarbonyl)phenyl)[4-(2-furanyl methyl)-1-piperazinyl]methyl]-N,N-diethyl-, hydrochloride (10:7), (+)- (9CI) (CA INDEX NAME)

Rotation (+).



● 7/10 HCl

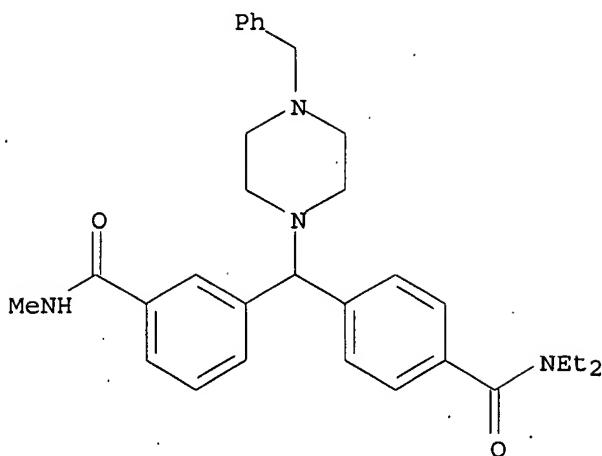
RN 691883-88-2 CAPLUS

CN Benzamide, N,N-diethyl-4-[(3-[(methylamino)carbonyl]phenyl)[4-(phenylmethyl)-1-piperazinyl]methyl]-, (-)-, trifluoroacetate (5:8) (9CI) (CA INDEX NAME)

CM 1

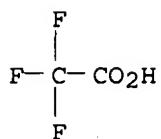
CRN 691358-63-1
CMF C31 H38 N4 O2

Rotation (-).



CM 2

CRN 76-05-1
CMF C2 H F3 O2

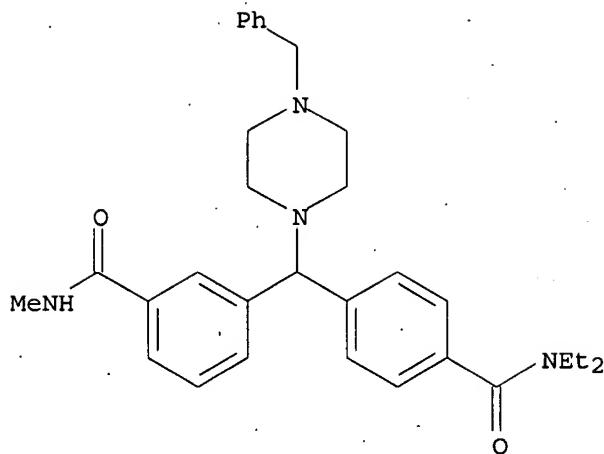


RN 691883-89-3 CAPLUS
CN Benzamide, N,N-diethyl-4-[(3-[(methylamino)carbonyl]phenyl)[4-(phenylmethyl)-1-piperazinyl]methyl]-, (+)-, trifluoroacetate (5:8) (9CI)
(CA INDEX NAME)

CM 1

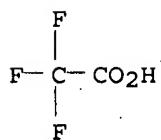
CRN 691358-64-2
CMF C31 H38 N4 O2

Rotation (+).



CM 2

CRN 76-05-1
 CMF C2 H F3 O2



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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	5.74	183.97
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-0.78	-0.78

SESSION WILL BE HELD FOR 120 MINUTES
 STN INTERNATIONAL SESSION SUSPENDED AT 16:07:07 ON 23 JUN 2007